

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

A7SO  
Revision 15  
PIPER  
PA-34-200  
PA-34-200T  
PA-34-220T

February 25, 2004

**TYPE CERTIFICATE DATA SHEET NO. A7SO**

This data sheet which is a part of type certificate No. A7SO, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder                      The New Piper Aircraft, Inc.  
2926 Piper Drive  
Vero Beach, Florida 32960

**I. - Model PA-34-200 (Seneca), 7 PCLM (Normal Category), Approved 7 May 1971.**

Engines

S/N 34-E4, 34-7250001 through 34-7250214:  
1 Lycoming LIO-360-C1E6 with fuel injector,  
Lycoming P/N LW-10409 or LW-12586 (right side); and  
1 Lycoming IO-360-C1E6 with fuel injector,  
Lycoming P/N LW-10409 or LW 12586 (left side).

S/N 34-7250215 through 34-7450220:  
1 Lycoming LIO-360-C1E6 with fuel injector,  
Lycoming P/N LW-12586 (right side); and  
1 Lycoming IO-360-C1E6 with fuel injector,  
Lycoming P/N LW-12586 (left side).

Fuel

100/130 minimum grade aviation gasoline

Engine Limits

For all operations, 2700 r.p.m.                      (200 hp)

Propeller and Propeller Limits

Left Engine

1 Hartzell, Hub Model HC-C2YK-2 ( ) E, Blade Model C7666A-0;  
1 Hartzell, Hub Model HC-C2YK-2 ( ) EU, Blade Model C7666A-0;  
1 Hartzell, Hub Model HC-C2YK-2 ( ) EF, Blade Model FC7666A-0;  
1 Hartzell, Hub Model HC-C2YK-2 ( ) EFU, Blade Model FC7666A-0;  
1 Hartzell, Hub Model HC-C2YK-2CG (F), Blade Model (F) C7666A  
(This model includes the Hartzell damper); or  
1 Hartzell, Hub Model HC-C2YK-2CGU (F), Blade Model (F) C7666A  
(This model includes the Hartzell damper).

Note: HC-( )2YK-( ) may be substituted by HC-( )2YR-( ) per Hartzell Service Advisory 61.

|          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
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Propeller and Propeller Limits  
(continued)

Right Engine

1 Hartzell, Hub Model HC-C2YK-2 ( ) LE, Blade Model JC7666A-0;  
 1 Hartzell, Hub Model HC-C2YK-2 ( ) LEU, Blade Model JC7666A-0;  
 1 Hartzell, Hub Model HC-C2YK-2 ( ) LEF, Blade Model FJC7666A-0;  
 1 Hartzell, Hub Model HC-C2YK-2 ( ) LEFU, Blade Model FJC7666A-0;  
 1 Hartzell, Hub Model HC-C2YK-2CLG (F), Blade Model (F) JC7666A  
 (This model includes the Hartzell damper); or  
 1 Hartzell, Hub Model HC-C2YK-2CLGU (F), Blade Model (F) JC7666A  
 (This model includes the Hartzell damper).

Note: HC-( )2YK-( ) may be substituted by HC-( )2YR-( ) per Hartzell Service Advisory 61.

Pitch setting: High 79° to 81°, Low 13.5° at 30" station.  
 Diameter: Not over 76", not under 74".  
 No further reduction permitted.

Spinner: Piper P/N 96388 Spinner Assembly and P/N 96836 Cap Assembly, or  
 P/N 78359-0 Spinner Assembly and P/N 96836-2 Cap Assembly (See NOTE 4)

Governor Assembly:

1 Hartzell hydraulic governor, Model F-6-18AL (Right);  
 1 Hartzell hydraulic governor, Model F-6-18A (Left).

Avoid continuous operation between 2200 and 2400 r.p.m. unless aircraft is equipped with Hartzell propellers which incorporates Hartzell damper on both left and right engine as noted above.

Airspeed Limits

|   |            |             |
|---|------------|-------------|
| V <sub>NE</sub> (Never exceed)              | 217 m.p.h. | (188 knots) |
| V <sub>NO</sub> (Maximum structural cruise) | 190 m.p.h. | (165 knots) |
| V <sub>A</sub> (Maneuvering, 4200 lb.)      | 146 m.p.h. | (127 knots) |
| V <sub>A</sub> (Maneuvering, 4000 lb.)      | 146 m.p.h. | (127 knots) |
| V <sub>A</sub> (Maneuvering, 2743 lb.)      | 133 m.p.h. | (115 knots) |
| V <sub>FE</sub> (Flaps extended)            | 125 m.p.h. | (109 knots) |
| V <sub>LO</sub> (Landing gear operating)    |            |             |
| Extension                                   | 150 m.p.h. | (130 knots) |
| Retract                                     | 125 m.p.h. | (109 knots) |
| V <sub>LE</sub> (Landing gear extended)     | 150 m.p.h. | (130 knots) |
| V <sub>MC</sub> (Minimum control speed)     | 80 m.p.h.  | ( 69 knots) |

C.G. Range (Gear Extended)

S/N 34-E4, 34-7250001 through 34-7250214 (See NOTE 3):  
 (+86.4) to (+94.6) at 4000 lb.  
 (+82.0) to (+94.6) at 3400 lb.  
 (+80.7) to (+94.6) at 2780 lb.

S/N 34-7250215 through 34-7450220:  
 (+87.9) to (+94.6) at 4200 lb.  
 (+82.0) to (+94.6) at 3400 lb.  
 (+80.7) to (+94.6) at 2780 lb.  
 Straight line variation between points given.  
 Moment change due to gear retracting landing gear (-32 in.-lb.)

Empty Weight C.G. Range

None

Maximum Weight

S/N 34-E4, 34-7250001 through 34-7250214:  
 4000 lb.- Takeoff  
 4000 lb. - Landing  
 See NOTE 3.

|                                     |   |   |      |                 |       |                        |
|-------------------------------------|---|---|------|-----------------|-------|------------------------|
| <u>Maximum Weight</u>               | S/N 34-7250215 through 34-7450220:<br>4200 lb. - Takeoff<br>4000 lb. - Landing                  |   |      |                 |       |                        |
| <u>No. of Seats</u>                 | 7 (2 at +85.5, 3 at +118.1, 2 at +155.7)  |   |      |                 |       |                        |
| <u>Maximum Baggage</u>              | 200 lb. (100 lb. at +22.5, 100 lb. at +178.7)   |   |      |                 |       |                        |
| <u>Fuel Capacity</u>                | 98 gallons (2 wing tanks) at (+93.6) (93 gallons usable)<br>See NOTE 1 for data on system fuel. |   |      |                 |       |                        |
| <u>Oil Capacity</u>                 | 8 qts. per engine (6 qts. per engine usable)<br>See NOTE 1 for data on system oil.              |   |      |                 |       |                        |
| <u>Control Surface Movements</u>    | Ailerons  | ( $\pm 2^\circ$ )                         | Up   | 30°             | Down  | 15°                    |
|                                     | Stabilator  |   | Up   | 12.5° (+0, -1°) | Down  | 7.5° ( $\pm 1^\circ$ ) |
|                                     | Rudder  | ( $\pm 1^\circ$ )                         | Left | 35°             | Right | 35°                    |
|                                     | Stabilator Trim   | ( $\pm 1^\circ$ )                         | Down | 10.5°           | Up    | 6.5°                   |
|                                     | Tab<br>(Stabilator neutral)   |   |      |                 |       |                        |
|                                     | Wing Flaps  | ( $\pm 2^\circ$ )                         | Up   | 0°              | Down  | 40°                    |
|                                     | Rudder Trim   |   |      |                 |       |                        |
|                                     | Tab<br>(Rudder neutral)   | ( $\pm 1^\circ$ )                         | Left | 17°             | Right | 22°                    |
|                                     | Nose Wheel  | S/N 34-E4, 34-7250001 through 34-7350353: |      |                 |       |                        |
|                                     | Travel  | ( $\pm 1^\circ$ )                         | Left | 21°             | Right | 21°                    |
|                                     | Nose Wheel  | S/N 34-7450001 through 34-7450220:        |      |                 |       |                        |
|                                     | Travel  | ( $\pm 1^\circ$ )                         | Left | 27°             | Right | 27°                    |
| <u>Manufacturer's Serial Number</u> | 34-E4, 34-7250001 through 34-7450220 (See NOTE 7).  |   |      |                 |       |                        |

## **II. - Model PA-34-200T (Seneca II), 7 PCLM (Normal Category), Approved July 18, 1974.**

Same as Model PA-34-200 series except engine installation, maximum gross weight, and other minor changes.

|                                       |  |  |  |  |  |  |
|---------------------------------------|--|--|--|--|--|--|
| <u>Engines</u>                        | 1 Teledyne Continental TSIO-360-E or TSIO-360-EB (left engine),<br>1 Teledyne Continental LTSIO-360-E or LTSIO-360-EB (right engine).  |  |  |  |  |  |
| <u>Fuel</u>                           | 100/130 minimum grade aviation gasoline  |  |  |  |  |  |
| <u>Engine Limits</u>                  | For all operations, 2575 r.p.m. and 40" Hg.<br>Manifold pressure, 200 hp @ S.L. and 215 hp @ 12,000 ft.  |  |  |  |  |  |
| <u>Propeller and Propeller Limits</u> | <u>Left engine</u><br>1 Hartzell, Hub Model BHC-C2YF-2 ( )F (See NOTE 10)<br>or BHC-C2YF-2 ( )UF; Blade Model FC8459-8R or FC8459B-8R.<br><br><u>Right engine</u><br>1 Hartzell, Hub Model BHC-C2YF-2 ( )L ( )F (See NOTE 10)<br>or BHC-C2YF-2 ( )L ( )UF; Blade Model FJC8459-8R or FJC8459B-8R.<br><br>Pitch setting at 30" station:<br>Hub Serial Numbers prior to AN3943:<br>High $79.3^\circ \pm 2.0^\circ$ , Low $14.4^\circ \pm 0.2^\circ$ or High $80.0^\circ$ to $81.5^\circ$ , Low $14.4^\circ \pm 0.2^\circ$ .<br>Hub Serial Numbers AN3943 and subsequent:<br>High $80.0^\circ$ to $81.5^\circ$ , Low $14.4^\circ \pm 0.2^\circ$ . |  |  |  |  |  |

Propeller and Propeller Limits  
(continued)

Diameter: Not over 76", not under 75".  
No further reduction permitted.

Spinner: Piper P/N 37138-0 Spinner Assembly (left hand),  
Piper P/N 37138-1 Spinner Assembly (right hand) (See NOTE 4).

Governor Assembly:

1 Woodward hydraulic governor, Model C210659 (left),  
1 Woodward hydraulic governor, Model 210658 (right); or  
1 Hartzell hydraulic governor, Model E-3 (left) and  
1 Hartzell hydraulic governor, Model E-3L (right); or  
1 Hartzell hydraulic governor, Model E-8L (right)  
(E-8L Governor used with Synchrophaser).

Avoid continuous operation between 2000 and 2200 r.p.m. with engine manifold pressure above 32" Hg.

Avoid continuous ground operation in cross and tail winds over 10 knots between 1700 and 2100 r.p.m..

S/N 34-7970001 through 34-8170092:

Left Engine

1 McCauley, Hub Model 3AF34C502, Blade Model 80 HA-4

Right Engine

1 McCauley, Hub Model 3AF34C503, Blade Model L80 HA-4

Pitch setting: High 81.0° to 83.5°, Low 12.0° ± .2° at 30" station.

Diameter: Not over 76", not under 75".  
No further reduction permitted.

Spinner: Piper P/N PS50077-49 Spinner Assembly See NOTE 4.

Governor Assembly:

1 Woodward hydraulic governor, Model C210659 (left),  
1 Woodward hydraulic governor, Model 210658 (right);  
1 Hartzell hydraulic governor, Model E-3 (left),  
1 Hartzell hydraulic governor, Model E-3L (right); or  
1 Hartzell hydraulic governor, Model E-8L (right)  
(E-8L Governor used with Synchrophasers).

Synchrophaser for S/N 34-7970001 through 34-8170092:  
Piper Drawing No. 36890 Synchrophaser Installation

Airspeed Limits

|   |            |             |
|---|------------|-------------|
| V <sub>NE</sub> (Never exceed)              | 224 m.p.h. | (195 knots) |
| V <sub>NO</sub> (Maximum structural cruise) | 190 m.p.h. | (165 knots) |
| V <sub>A</sub> (Maneuvering)                | 140 m.p.h. | (122 knots) |
| V <sub>FE</sub> (Flaps extended)            | 125 m.p.h. | (109 knots) |
| V <sub>LO</sub> (Landing gear operating)    |            |             |
| Extension                                   | 150 m.p.h. | (130 knots) |
| Retract                                     | 125 m.p.h. | (109 knots) |
| V <sub>LE</sub> (Landing gear extended)     | 150 m.p.h. | (130 knots) |
| V <sub>MC</sub> (Minimum control speed)     | 80 m.p.h.  | ( 69 knots) |

C.G. Range (Gear Extended)

(+90.6) to (+94.6) at 4570 lb.  
(+82.0) to (+94.6) at 3400 lb.  
Straight line variation between points given.  
Moment change due to retracting landing gear (-32 in.-lb.).

Empty Weight C.G. Range

None

|                                     |  |       |      |                  |       |            |
|-------------------------------------|--|-------|------|------------------|-------|------------|
| <u>Maximum Weight</u>               | 4570 lb. - Takeoff<br>4342 lb. - Landing (All weight in excess of 4000 lb. must be fuel)<br>Zero fuel weight may be increased up to a maximum of 4077.7 lb. when approved wing options are installed.<br>See NOTE 11 for optional weights. |       |      |                  |       |            |
| <u>No. of Seats</u>                 | 7 (2 at +85.5, 3 at +118.1, 2 at +155.7)<br>7 (2 at +85.5, 3 at +118.1, 2 at +157.6)<br>6 (2 at +85.5, *2 at +119.1, 2 at +157.6)<br><br>* - Optional <u>Club Seats</u>  |       |      |                  |       |            |
| <u>Maximum Baggage</u>              | 200 lb. (100 lb. at +22.5, 100 lb. at +178)  |       |      |                  |       |            |
| <u>Fuel Capacity</u>                | 98 gallons (2 wing tanks) at (+93.6) (93 gallons usable)<br>* 128 gallons (2 wing tanks) at (+93.6) (123 gallons usable)<br>* - Optional for S/N 34-7570001, 34-7670114 through 34-8170092.<br>See NOTE 1 for data on system fuel.         |       |      |                  |       |            |
| <u>Oil Capacity</u>                 | 8 qts. per engine (5 qts. per engine usable)<br>See NOTE 1 for data on system oil.   |       |      |                  |       |            |
| <u>Maximum Operating Altitude</u>   | 25,000 feet  |       |      |                  |       |            |
| <u>Control Surface Movements</u>    | Ailerons   | (±2°) | Up   | 35°              | Down  | 20°        |
|                                     | Stabilator   |       | Up   | 12.5° (+0°, -1°) | Down  | 7.5° (±1°) |
|                                     | Rudder   | (±1°) | Left | 35°              | Right | 35°        |
|                                     | Stabilator Trim Tab  | (±1°) | Down | 10.5°            | Up    | 6.5°       |
|                                     | (Stabilator neutral)   |       |      |                  |       |            |
|                                     | Wing Flaps   | (±2°) | Up   | 0°               | Down  | 40°        |
|                                     | Rudder Trim Tab  | (±1°) | Left | 25°              | Right | 25°        |
|                                     | (Rudder neutral)   |       |      |                  |       |            |
|                                     | Nose Wheel Travel  | (±1°) | Left | 27°              | Right | 27°        |
| <u>Manufacturer's Serial Number</u> | 34-7570001 through 34-8170092 (See NOTE 7).  |       |      |                  |       |            |

### **IIIA. - Model PA-34-220T (Seneca III), 7 PCLM (Normal Category), Approved December 17, 1980.**

Same as model PA-34-200T series except engines, windshield, instrument panel, landing gear, maximum gross weight and other minor changes.

|                                       |  |  |  |  |  |  |
|---------------------------------------|--|--|--|--|--|--|
| <u>Engines</u>                        | 1 Teledyne Continental TSIO-360-KB (left engine),<br>1 Teledyne Continental LTSIO-360-KB (right engine).   |  |  |  |  |  |
| <u>Fuel</u>                           | 100/100LL minimum grade aviation gasoline  |  |  |  |  |  |
| <u>Engine Limits</u>                  | Takeoff, 5 minutes, 2800 r.p.m. and 40" Hg. manifold pressure (220 hp)<br>Max. Continuous, 2600 r.p.m. and 40" Hg. manifold pressure (200 hp)  |  |  |  |  |  |
| <u>Propeller and Propeller Limits</u> | <u>Left Engine</u><br>1 Hartzell, Hub Model BHC-C2YF-2 ( ) UF, Blade Model FC8459-8R.<br><u>Right Engine</u><br>1 Hartzell, Hub Model BHC-C2YF-2 ( )L ( )UF, Blade Model FJC8459-8R. |  |  |  |  |  |

Propeller and Propeller Limits  
(cont'd)

Pitch setting: High 80.0° to 81.5°, Low 12.6° ± 0.2° at 30" station.  
 Diameter: Not over 76", not under 75".  
 No further reduction permitted.

Spinner: Piper P/N 37138-0 assembly (left hand),  
 Piper P/N 37138-1 assembly (right hand).  
 See NOTE 4.

## Governor Assembly:

1 Hartzell hydraulic governor; Model E-3-7 (left),  
 1 Hartzell hydraulic governor; Model E-3-7L (right); or  
 1 Hartzell hydraulic governor; Model E-8-7L (14V) or E-8-8L (28V) (right)  
 with Synchrophaser Installation, Piper Drawing 36890 or 87719.

Avoid continuous ground operation in cross and tail winds of over 10 knots  
 between 1700 and 2100 r.p.m.

Avoid continuous operation between 2000 and 2200 r.p.m. with manifold pressure  
 above 32" Hg.

Left Engine

1 McCauley, Hub Model 3AF32C508, Blade Model 82NFA-6,

Right Engine

1 McCauley, Hub Model 3AF32C509, Blade Model L82NFA-6.

Pitch setting: High 81.0° to 83.5°, Low 11.0° ± 0.2° at 30" station.  
 Diameter: Not over 76", not under 75".  
 No further reduction permitted.

Spinner: Piper P/N PS50077-49 or P/N PS50077-78 Assembly  
 See NOTE 4.

## Governor Assembly:

1 Hartzell hydraulic governor; Model E-3-7 (left),  
 1 Hartzell hydraulic governor; Model E-3-7L (right); or  
 1 Hartzell hydraulic governor; Model E-8-7L (14V) or E-8-8L (28V) (right) with  
 Synchrophaser Installation, Piper Drawing No. 36890 or 87719.

Airspeed Limits (IAS)

|   |           |
|---|-----------|
| V <sub>NE</sub> (Never exceed)              | 205 knots |
| V <sub>NO</sub> (Maximum structural cruise) | 166 knots |
| V <sub>A</sub> (Maneuvering) at 4750 lb.    | 140 knots |
| V <sub>FE</sub> (Flaps extended)            | 115 knots |
| V <sub>LO</sub> (Landing gear retracting)   | 108 knots |
| V <sub>LO</sub> (Landing gear extending)    | 130 knots |
| V <sub>LE</sub> (Landing gear extended)     | 130 knots |
| V <sub>MC</sub> (Minimum control speed)     | 66 knots  |

C.G. Range (Gear Extended)

(+90.6) to (+94.6) at 4750 lb.  
 (+86.7) to (+94.6) at 4250 lb.  
 (+82.0) to (+94.6) at 3400 lb.  
 Straight line variation between points given.  
 Moment change due to retracting landing gear (-32 in.-lb.)

Empty Weight C.G. Range

None

|                                     |  |       |      |                  |       |            |
|-------------------------------------|--|-------|------|------------------|-------|------------|
| <u>Maximum Weight</u>               | 4773 lb. - Ramp<br>4750 lb. - Takeoff<br>4513 lb. - Landing<br>4470 lb. - Zero Fuel<br>See NOTE 12 and 13 for optional weights.  |       |      |                  |       |            |
| <u>No. of Seats</u>                 | 7 (2 at +85.5, 3 at +118.1, 2 at +157.6)<br>6 (2 at +85.5, *2 at +119.1, 2 at +157.6)<br>* - Optional <u>Club Seats</u>  |       |      |                  |       |            |
| <u>Maximum Baggage</u>              | 200 lb. (100 lb. at +22.5, 100 lb. at +178.7)  |       |      |                  |       |            |
| <u>Fuel Capacity</u>                | 98 gallons (2 wing tanks) at (+93.6) (93 gallons usable)<br>* 128 gallons (2 wing tanks) at (+93.6) (123 gallons usable)<br>* - Optional installation<br>See NOTE 1 for data on system fuel. |       |      |                  |       |            |
| <u>Oil Capacity</u>                 | 8 qts. per engine (5 qts. per engine usable)<br>See NOTE 1 for data on system oil.   |       |      |                  |       |            |
| <u>Maximum Operating Altitude</u>   | 25,000 feet  |       |      |                  |       |            |
| <u>Control Surface Movements</u>    | Ailerons   | (±2°) | Up   | 35°              | Down  | 20°        |
|                                     | Stabilator   |       | Up   | 12.5° (+0°, -1°) | Down  | 7.5° (±1°) |
|                                     | Rudder   | (±1°) | Left | 35°              | Right | 35°        |
|                                     | Stabilator Trim Tab  | (±1°) | Down | 10.5°            | Up    | 6.5°       |
|                                     | (Stabilator neutral)   |       |      |                  |       |            |
|                                     | Wing Flaps   | (±2°) | Up   | 0°               | Down  | 40°        |
|                                     | Rudder Trim Tab  | (±1°) | Left | 25°              | Right | 25°        |
|                                     | (Rudder neutral)   |       |      |                  |       |            |
|                                     | Nose Wheel Travel  | (±1°) | Left | 27°              | Right | 27°        |
| <u>Manufacturer's Serial Number</u> | 34-8133001 through 34-8633031 (14V); 3433001 through 3433172 (14V); and<br>3448001 through 3448037 (28V) (See NOTE 7).   |       |      |                  |       |            |

**IIIB. - Model PA-34-220T (Seneca IV), 6 PCLM (Normal Category), Approved November 17, 1993.**

Same as Model PA-34-220T (Seneca III) except nose bowl assembly, instrument panel, interior and other minor changes.

|                                       |  |  |  |  |  |  |
|---------------------------------------|--|--|--|--|--|--|
| <u>Engines</u>                        | 1 Teledyne Continental TSIO-360-KB (left engine),<br>1 Teledyne Continental LTSIO-360-KB (right engine).   |  |  |  |  |  |
| <u>Fuel</u>                           | 100/100LL minimum grade aviation gasoline  |  |  |  |  |  |
| <u>Engine Limits</u>                  | Takeoff, 5 minutes, 2800 r.p.m. and 40" Hg. manifold pressure (220 hp)<br>Max. Continuous, 2600 r.p.m. and 40" Hg. manifold pressure (200 hp)  |  |  |  |  |  |
| <u>Propeller and Propeller Limits</u> | <u>Left Engine</u><br>1 Hartzell, Hub Model BHC-C2YF-2 ( ) UF, Blade Model FC8459-8R.<br><u>Right Engine</u><br>1 Hartzell, Hub Model BHC-C2YF-2 ( ) L ( ) UF, Blade Model FJC8459-8R.<br><br>Pitch setting: High 80.0° to 81.5°, Low 12.6° ± 0.2° at 30 " station.<br>Diameter: Not over 76", not under 75".<br>No further reduction permitted. |  |  |  |  |  |

Propeller and Propeller Limits  
(cont'd)

Spinner: Piper P/N 37138-0 Assembly (left hand),  
Piper P/N 37138-1 Assembly (right hand).  
Governor Assembly:  
1 Hartzell hydraulic governor; Model E-3-7 (left),  
1 Hartzell hydraulic governor; Model E-3-7L (right); or  
1 Hartzell hydraulic governor; Model E-8-8L (right) with Synchrophaser  
Installation, Piper Drawing No. 87719.

Avoid continuous ground operation in cross and tail winds between 1700 and 2100 r.p.m..  
Avoid continuous operation between 2000 and 2200 r.p.m. with manifold pressure above 32" Hg.

Left Engine

1 McCauley, Hub Model 3AF32C508, Blade Model 82NFA-6.

Right Engine

1 McCauley, Hub Model 3AF32C509, Blade Model L82NFA-6.

Pitch setting: High 81.0° to 83.5°, Low 11.0° ± 0.2° at 30" station.  
Diameter: Not over 76", not under 75".  
No further reduction permitted.

Spinner: Piper P/N PS50077-78 Assembly

Governor Assembly:

1 Hartzell hydraulic governor; Model E-3-7 (left),  
1 Hartzell hydraulic governor; Model E-3-7L (right); or  
1 Hartzell hydraulic governor; Model E-8-8L (right) with Synchrophaser  
Installation, Piper Drawing No. 87719.

Airspeed Limits (IAS)

|   |           |
|---|-----------|
| V <sub>NE</sub> (Never exceed)              | 205 knots |
| V <sub>NO</sub> (Maximum structural cruise) | 166 knots |
| V <sub>A</sub> (Maneuvering) at 4750 lb.    | 140 knots |
| V <sub>FE</sub> (Flaps extended)            | 115 knots |
| V <sub>LO</sub> (Landing gear retracting)   | 108 knots |
| V <sub>LO</sub> (Landing gear extending)    | 130 knots |
| V <sub>LE</sub> (Landing gear extended)     | 130 knots |
| V <sub>MC</sub> (Minimum control speed)     | 66 knots  |

C.G. Range (Gear Extended)

(+90.6) to (+94.6) at 4750 lb.  
(+86.7) to (+94.6) at 4250 lb.  
(+82.0) to (+94.6) at 3400 lb.  
Straight line variation between points given.  
Moment change due to retracting landing gear (-32 in.-lb.)

Empty Weight C.G. Range

None

Maximum Weight

4773 lb. - Ramp  
4750 lb. - Takeoff  
4513 lb. - Landing  
4470 lb. - Zero Fuel  
See NOTE 14 and 15 for optional weights.

No. of Seats

6 (2 at +85.5, 2 at +119.1, 2 at +157.6)

Maximum Baggage

200 lb. (100 lb. at +22.5, 100 lb. at +178.7)

Fuel Capacity

128 gallons (2 wing tanks) at (+93.6) (123 gallons usable)  
See NOTE 1 for data on system fuel.



Oil Capacity 8 qts. per engine (5 qts. per engine usable)  
See NOTE 1 for data on system oil.

Maximum Operating Altitude 25,000 feet

|                                  |                      |                   |      |                  |       |                        |
|----------------------------------|----------------------|-------------------|------|------------------|-------|------------------------|
| <u>Control Surface Movements</u> | Ailerons             | ( $\pm 2^\circ$ ) | Up   | 35°              | Down  | 20°                    |
|                                  | Stabilator           |                   | Up   | 12.5° (+0°, -1°) | Down  | 7.5° ( $\pm 1^\circ$ ) |
|                                  | Rudder               | ( $\pm 1^\circ$ ) | Left | 35°              | Right | 35°                    |
|                                  | Stabilator Trim Tab  | ( $\pm 1^\circ$ ) | Down | 10.5°            | Up    | 6.5°                   |
|                                  | (Stabilator neutral) |                   |      |                  |       |                        |
|                                  | Wing Flaps           | ( $\pm 2^\circ$ ) | Up   | 0°               | Down  | 40°                    |
|                                  | Rudder Trim Tab      | ( $\pm 1^\circ$ ) | Left | 25°              | Right | 25°                    |
|                                  | (Rudder neutral)     |                   |      |                  |       |                        |
|                                  | Nose Wheel Travel    | ( $\pm 1^\circ$ ) | Left | 27°              | Right | 27°                    |

Manufacturer's Serial Number 3448038 through 3448079, and 3447001 through 3447029.

**IIIC. - Model PA-34-220T (Seneca V), 6 PCLM (Normal Category), Approved December 11, 1996.**

Same as Model PA-34-220T (Seneca IV) except engine installation, instrument panel, interior and other minor changes.

Engines 1 Teledyne Continental TSIO-360-RB (left engine),  
1 Teledyne Continental LTSIO-360-RB (right engine).

Fuel 100/100LL minimum grade aviation gasoline

Engine Limits Takeoff and Maximum Continuous Operation, 2600 r.p.m. and 38" Hg. manifold pressure (220 hp)

Propeller and Propeller Limits Left Engine  
1 Hartzell, Hub Model BHC-J2YF-2CUF, Blade Model FC8459(B)-8R.  
Right Engine  
1 Hartzell, Hub Model BHC-J2YF-2CLUF, Blade Model FJC8459(B)-8R.

Pitch setting: High 80.0° to 81.5°, Low 14.6°  $\pm$  0.2° at 30" station.  
Diameter: Not over 76", not under 75".  
No further reduction permitted.

Spinner: Piper P/N 37138-6 Assembly (left hand),  
Piper P/N 37138-7 Assembly (right hand).

Governor Assembly:  
1 Hartzell hydraulic governor; Model E-3-9 (left),  
1 Hartzell hydraulic governor; Model E-3-9L (right); or  
1 Hartzell hydraulic governor; Model E-8-9L (right) with Synchrophaser Installation.

Avoid continuous ground operation in cross and tail winds between 1600 and 2100 r.p.m..

Avoid continuous operation between 1900 and 2100 r.p.m. with manifold pressure above 32" Hg.

Propeller and Propeller Limits  
(continued)

Left Engine

1 McCauley, Hub Model 3AF32C522, Blade Model 82NJA-6.

Right Engine

1 McCauley, Hub Model 3AF32C523, Blade Model L82NJA-6.

Pitch setting: Feather  $82.1^\circ \pm 0.5^\circ$ , Low  $12.6^\circ \pm 0.2^\circ$  at 30" station.

Diameter: Not over 76", not under 75".  
No further reduction permitted.

Spinner: Piper P/N 100738-2 Assembly

Governor Assembly:

1 Hartzell hydraulic governor; Model E-3-9 (left),

1 Hartzell hydraulic governor; Model E-3-9L (right); or

1 Hartzell hydraulic governor; Model E-8-9L (right) with Synchrophaser Installation.

Airspeed Limits (IAS)

|                                      |           |
|--------------------------------------|-----------|
| $V_{NE}$ (Never exceed)              | 204 knots |
| $V_{NO}$ (Maximum structural cruise) | 164 knots |
| $V_A$ (Maneuvering) at 4750 lb.      | 139 knots |
| $V_{FE}$ (Flaps extended)            | 113 knots |
| $V_{LO}$ (Landing gear retracting)   | 107 knots |
| $V_{LO}$ (Landing gear extending)    | 128 knots |
| $V_{LE}$ (Landing gear extended)     | 128 knots |
| $V_{MC}$ (Minimum control speed)     | 66 knots  |

C.G. Range (Gear Extended)

(+90.6) to (+94.6) at 4750 lb.

(+86.7) to (+94.6) at 4250 lb.

(+82.0) to (+94.6) at 3400 lb.

Straight line variation between points given.

Moment change due to retracting landing gear (-32 in.-lb.)

Empty Weight C.G. Range

None

Maximum Weight

4773 lb. - Ramp

4750 lb. - Takeoff

4513 lb. - Landing

4479 lb. - Zero Fuel

See NOTE 16 for optional weights.

No. of Seats

6 (2 at +85.5, 2 at +119.1, 2 at +157.6)

Maximum Baggage

185 lb. (100 lb. at +22.5, 85 lb. at +178.7)

Fuel Capacity

128 gallons (2 wing tanks) at (+93.6) (122 gallons usable)

See NOTE 1 for data on system fuel.

Oil Capacity

8 qts. per engine (5 qts. per engine usable)

See NOTE 1 for data on system oil.

Maximum Operating Altitude 25,000 feet

|                                  |                             |                   |      |                      |       |                        |
|----------------------------------|-----------------------------|-------------------|------|----------------------|-------|------------------------|
| <u>Control Surface Movements</u> | Ailerons                    | ( $\pm 2^\circ$ ) | Up   | 35°                  | Down  | 20°                    |
|                                  | Stabilator                  |                   | Up   | 12.5° (+0°, -1°)     | Down  | 7.5° ( $\pm 1^\circ$ ) |
|                                  | Rudder                      | ( $\pm 1^\circ$ ) | Left | 35°                  | Right | 35°                    |
|                                  | Stabilator Trim Tab         | ( $\pm 1^\circ$ ) | Down | 10.5°                | Up    | 6.5°                   |
|                                  | (Stabilator neutral)        |                   |      |                      |       |                        |
|                                  | Wing Flaps                  |                   | Up   | 0° ( $\pm 1^\circ$ ) | Down  | 40° ( $\pm 2^\circ$ )  |
|                                  | Rudder Trim Tab             | ( $\pm 1^\circ$ ) | Left | 26°                  | Right | 26°                    |
|                                  | (Rudder neutral)            |                   |      |                      |       |                        |
|                                  | Nose Wheel Travel (Maximum) |                   | Left | 27°                  | Right | 27°                    |
|                                  |                             |                   |      |                      |       |                        |

Manufacturer's Serial Number 3449001 and up.

#### DATA PERTINENT TO ALL MODELS

Datum 78.4" forward of wing leading edge from the inboard edge of the inboard fuel tank.

Leveling Means Two screws left side fuselage below window.

Certification Basis Type Certificate No. A7SO issued May 7, 1971, obtained by the manufacturer under the delegation option authorization.  
Date of Type Certificate application July 23, 1968.

##### Model PA-34-200 (Seneca I):

FAR 23 as amended by Amendment 23-6 effective August 1, 1967; FAR 23.959 as amended by Amendment 23-7 effective September 14, 1969; and FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977. Compliance with FAR 23.1419 as amended by Amendment 23-14 effective December 20, 1973, has been established with optional ice protection provisions.

##### Model PA-34-200T (Seneca II):

FAR 23 as amended by Amendment 23-6 effective August 1, 1967; FAR 23.901, 23.909, 23.959, 23.1041, 23.1043, 23.1047, 23.1143, 23.1305(b)(c)(h)(p) and 23.1527(b) as amended by Amendment 23-7 effective September 14, 1969; and FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977.

##### Model PA-34-220T (Seneca III and IV):

FAR 23 as amended by Amendment 23-6 effective August 1, 1967; FAR 23.207, 23.901, 23.909, 23.959, 23.1041, 23.1043, 23.1047, 23.1143, 23.1305(b)(c)(h)(p) and 23.1527 as amended by Amendment 23-7 effective September 14, 1969; FAR 23.201 and 23.203 as amended by Amendment 23-14 effective December 20, 1973; FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977; FAR 23.175(a) and 23.1581(b)(2) as amended by Amendment 23-21 effective March 1, 1978; FAR 23.1545(a) as amended by Amendment 23-23 effective December 1, 1978; and FAR 36 through Amendment 36-9 effective January 15, 1979.

Certification Basis  
(continued)

Model PA-34-220T (Seneca V):

FAR 23 as amended by Amendment 23-6 effective August 1, 1967; FAR 23.901, 23.909, 23.1041, 23.1043, 23.1047, 23.1143, 23.1305(b)(c)(h)(p) and 23.1527 as amended by Amendment 23-7 effective September 14, 1969; FAR 23.959 as amended by Amendment 23-18 effective May 2, 1977; FAR 23.175(a), 23.201, 23.203, 23.1557(c)(1) and 23.1581 as amended by Amendment 23-21 effective March 1, 1978; FAR 23.1545(a) as amended by Amendment 23-23 effective December 1, 1978; FAR 23.1529 as amended by Amendment 23-26 effective October 14, 1980; FAR 23.1322 as amended by Amendment 23-43 effective May 10, 1993; FAR 23.207 as amended by Amendment 23-45 effective September 7, 1993; Removal of FAR 23.205 per Amendment 23-50 effective March 11, 1996; FAR 23.1305(b)(4)(ii) as amended by Amendment 23-52 effective July 25, 1996; and FAR 36, Appendix G through Amendment 36-16 effective December 18, 1988.

Compliance with the requirements of FAR 23.1419 as amended by Amendment 23-14 effective December 20, 1973, and FAR 23.1441 as amended by Amendment 23-9 effective June 17, 1970, has been established with optional ice protection provisions and optional supplemental oxygen equipment, respectively.

Production Basis

Production Certificate No. 206.

Production Limitation Record issued and the manufacturer is authorized to issue an airworthiness certificate under the delegation option provisions of FAR 21.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:

| <b><u>MODEL</u></b>       | <b><u>AFM/POH</u></b> | <b><u>REPORT NO.</u></b> | <b><u>APPROVED</u></b> | <b><u>SERIAL EFFECTIVITY</u></b>  |
|---------------------------|-----------------------|--------------------------|------------------------|---|
| PA-34-200<br>(Seneca)     | AFM                   | VB-353                   | 7/2/71                 | 34-E4, 34-7250001 through 34-7250214  |
|                           | AFM                   | VB-423                   | 5/20/72                | 34-7250001 through 34-7250189 when Piper Kit 760-607 is installed; 34-7250190 through 34-7250214 when Piper Kit 760-611 is installed; and 34-7250215 through 34-7350353 |
|                           | AFM                   | VB-563                   | 5/14/73                | 34-7450001 through 34-7450220   |
|                           | AFM Supp.             | VB-588                   | 7/20/73                | 34-7250001 through 34-7450039 when propeller with dampers are installed   |
|                           | AFM Supp.             | VB-601                   | 11/9/73                | 34-7250001 through 34-745017 when ice protection system is installed  |
| PA-34-200T<br>(Seneca II) | AFM                   | VB-628                   | 7/18/74                | 34-7570001 through 34-7670371   |
|                           | POH                   | VB-850                   | 8/23/76                | 34-7770001 through 34-8170092   |
|                           | POH                   | VB-1140                  | 6/30/80                | 34-7770001 through 34-8170092 when Piper Kit 764-048V is installed  |
|                           | AFM                   | VB-1245                  | 3/9/84                 | 34-7570001 through 34-7670371 when Piper Kit 765-110 is installed   |

| <u><b>MODEL</b></u>        | <u><b>AFM/POH</b></u> | <u><b>REPORT NO.</b></u> | <u><b>APPROVED</b></u> | <u><b>SERIAL EFFECTIVITY</b></u>  |
|----------------------------|-----------------------|--------------------------|------------------------|---|
| PA-34-220T<br>(Seneca III) | POH                   | VB-1110                  | 1/8/81                 | 34-8133001 through<br>34-8633031, and<br>3433001 through 3433172  |
|                            | POH                   | VB-1150                  | 2/20/81                | 34-8133001 through<br>34-8633031, and<br>3433001 through 3433172<br>when Piper Kit<br>764-099V is installed |
|                            | POH                   | VB-1257                  | 10/20/89               | 3448001 through 3448037   |
|                            | POH                   | VB-1259                  | 11/20/89               | 3448001 through 3448037<br>when Piper Kit<br>766-203 is installed   |
|                            | POH                   | VB-1556                  | 11/5/93                | 3448038 through 3448079   |
| PA-34-220T<br>(Seneca IV)  | POH                   | VB-1558                  | 12/6/93                | 3448038 through 3448079<br>when Piper Kit<br>766-283 is installed   |
|                            | POH                   | VB-1615                  | 7/12/95                | 3447001 through 3447029   |
|                            | POH                   | VB-1620                  | 7/12/95                | 3447001 through 3447029<br>when Piper Kit 766-608 is<br>installed   |
|                            | POH                   | VB-1638                  | 12/6/96                | 3449001 and up  |
| PA-34-220T<br>(Seneca V)   | POH                   | VB-1649                  | 1/23/97                | 3449001 and up when Piper<br>Kit 766-632 is installed   |

NOTE 1 Current Weight and Balance Report, including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity locations must include undrainable system oil (not included in oil capacity) and unusable fuel as noted below:

Fuel: 30.0 lb. at (+103.0) for PA-34 series, except Model PA-34-220T (Seneca V), S/N 3449001 and up  
 Fuel: 36.0 lb. at (+103.0) for Model PA-34-220T (Seneca V), S/N 3449001 and up  
 Oil: 6.2 lb. at (+ 39.6) for Model PA-34-200  
 Oil: 12.0 lb. at (+ 43.7) for Models PA-34-200T and PA-34-220T

NOTE 2 All placards required in the approved Airplane Flight Manual or Pilot's Operating Handbook and approved Airplane Flight Manual of Pilot's Operating Handbook supplements must be installed in the appropriate location.

NOTE 3 The Model PA-34-200; S/N 34-E4, 34-7250001 through 34-7250189, may be operated at a maximum takeoff weight of 4200 lb. when Piper Kit 760-607 is installed. S/N 34-7250190 through 34-7250214 may be operated at a maximum takeoff weight of 4200 lb. when Piper Kit 760-611 is installed.

NOTE 4 The Model PA-34-200; S/N 34-E4, 34-7250001 through 34-7250189, may be operated without spinner domes or without spinner domes and rear bulkheads when Piper Kit 760-607 has been installed. S/N 34-7250190 through 34-7250214 may be operated without spinner domes or without spinner domes and rear bulkhead when Piper Kit 760-611 has been installed. The Model PA-34-200; S/N 34-7250215 through 34-7450220, and the Model PA-34-200T; S/N 34-7570001 through 34-8170092, may be operated without spinner domes or without spinner domes and rear bulkheads.

The Model PA-34-200T; S/N 34-7970001 through 34-8170092, equipped with McCauley three-bladed propellers, may be operated with spinner dome and rear bulkhead removed. The Model PA-34-220T; S/N 34-8133001 through 34-8633031, 3433001 through 3433172,

and 3448001 through 3448037, with two-bladed Hartzell propellers may be operated without spinner domes or without spinner domes and rear bulkheads. With three-bladed McCauley propellers, this model may be operated without spinner dome and rear bulkhead.

## NOTE 5

The Model PA-34-200 may be operated in known icing conditions when equipped with spinner assembly and the following kits:

(a) S/N 34-E4, 34-7250001 through 34-7250189: Piper Kit 760-781V and Piper Kit 760-607 (See NOTE 3).

(b) S/N 34-7250190 through 34-7250214: Piper Kit 760-781V and Piper Kit 760-611 (See NOTE 3).

(c) S/N 34-7250215 through 34-7450220: Piper Kit 760-781V.

## NOTE 6

Model PA-34-200T; S/N 34-7570001 through 34-8170092, may be operated in known icing conditions when equipped with deicing equipment installed per Piper Drawing No. 37700 and spinner assembly.

## NOTE 7

The following serial numbers are not eligible for import certification to the U.S.:

PA-34-200:

34-7350283, 34-7350299, 34-7350300, and 34-7450187.

PA-34-200T:

34-7570074, 34-7570136, 34-7570193, 34-7570292, 34-7670045, 34-7670071, 34-7670072, 34-7670168, 34-7670261, 34-7670312, 34-7770037, 34-7770137, 34-7770206, 34-7770288, 34-7770316, 34-7770357, 34-7770367, 34-7770368, 34-7770406, 34-7870069, 34-7870098, 34-7870133, 34-7870157, 34-7870171, 34-7870172, 34-7870173, 34-7870174, 34-7870212, 34-7870213, 34-7870214, 34-7870215, 34-7870216, 34-7870217, 34-7870252, 34-7870257, 34-7870258, 34-7870313, 34-7870314, 34-7870367, 34-7870368, 34-7870369, 34-7870410, 34-7870411, 34-7870443, 34-7870444, 34-7870445, 34-7870446, 34-7870473, 34-7870474, 34-7970021, 34-7970051, 34-7970052, 34-7970087, 34-7970088, 34-7970131, 34-7970132, 34-7970133, 34-7970205, 34-7970206, 34-7970207, 34-7970374, 34-7970375, 34-7970376, 34-7970472, 34-7970473, 34-7970474, 34-7970475, 34-7970512, 34-7970513, 34-7970514, 34-8070045, 34-8070096, 34-8070097, 34-8070098, 34-8070099, 34-8070132, 34-8070202, 34-8070203, 34-8070204, 34-8070205, 34-8070276, 34-8070277, 34-8070278, 34-8070279, 34-8070280, 34-8070298, 34-8070299, 34-8070300, 34-8070301, 34-8170012, 34-8170013, 34-8170014, and 34-8170015.

PA-34-220T:

34-8133039, 34-8133083, 34-8133125, 34-8133126, 34-8133127, 34-8133128, 34-8133129, 34-8133169, 34-8133208, 34-8133209, 34-8133210, 34-8133211, 34-8133212, 34-8133240, 34-8133241, 34-8133242, 34-8133243, 34-8133244, 34-8133261, 34-8133262, 34-8133263, 34-8133264, 34-8233129, 34-8233130, 34-8233131, 34-8233132, 34-8233158, 34-8233159, 34-8233160, 34-8233161, 34-8233196, 34-8233197, 34-8233198, 34-8233199, 34-8333014, 34-8333015, 34-8333016, 34-8333017, 34-8333034, 34-8333035, 34-8333036, 34-8333037, 34-8333081, 34-8333082, 34-8333083, 34-8333084, 34-8333121, 34-8333122, 34-8333123, 34-8333124, 34-8433010, 34-8433011, 34-8433012, 34-8433013, 34-8433042, 34-8433043, 34-8433044, 34-8433045, 34-8433084, 34-8433088, 34-8533014, 34-8533015, 34-8533016, 34-8533017, 34-8633018, 3433013, 3433014, 3433015, 3433026 through 3433036, 3433039, 3433040, 3433045 through 3433088, 3433092 through 3433101, 3433103 through 3433110, 3433116 through 3433119, 3433124 through 3433127, 3433134, 3433135, 3433141 through 3433150, and 3433162 through 3433167.

- NOTE 8 Model PA-34-200; S/N 34-E4, S/N 34-7250001 through 34-7450220, and Model PA-34-200T; S/N 34-7570001 through 34-8170092, and Model PA-34-220T may be operated subject to the limitations listed in the Airplane Flight Manual or Pilot's Operating Handbook with rear cabin and cargo door removed.
- NOTE 9 In the following serial numbered aircraft, rear seat location is farther aft as shown and the center seats may be removed and replaced by CLUB SEAT INSTALLATION, which has a more aft C.G. location as shown in "No. of Seats," above:
- PA-34-200T: S/N 34-7770001 through 34-8170092.
- NOTE 10 These propellers are eligible on Teledyne Continental L/TSIO-360-E only.
- NOTE 11 With Piper Kit 764-048V installed weights are as follows:
- 4407 lb. - Takeoff
  - 4342 lb. - Landing (All weight in excess of 4000 lb. must be fuel)
  - Zero fuel weight may be increased to a maximum of 4077.7 lb. when approved wing options are installed (See POH VB-1140).
- NOTE 12 With Piper Kit 764-099V installed, weights are as follows:
- 4430 lb. - Ramp
  - 4407 lb. - Takeoff, Landing, and Zero Fuel (See POH VB-1150).
- NOTE 13 With Piper Kit 766-203 installed, weights are as follows:
- 4430 lb. - Ramp
  - 4407 lb. - Takeoff, Landing and Zero Fuel (See POH VB-1259).
- NOTE 14 With Piper Kit 766-283 installed, weights are as follows:
- 4430 lb. - Ramp
  - 4407 lb. - Takeoff, Landing and Zero Fuel (See POH VB-1558).
- NOTE 15 With Piper Kit 766-608 installed, weights are as follows:
- 4430 lb. - Ramp
  - 4407 lb. - Takeoff, Landing and Zero Fuel (See POH VB-1620).
- NOTE 16 With Piper Kit 766-632 installed, weights are as follows:
- 4430 lb. - Ramp
  - 4407 lb. - Takeoff, Landing and Zero Fuel (See POH VB-1649).
- NOTE 17 The bolt and stack-up that connect the upper drag link to the nose gear trunnion are required to be replaced every 500 hours time-in-service. The part numbers are as follows:
1. Piper P/N 400 274 (AN7-35) bolt or Piper P/N 693 215 (NAS6207-50D) bolt;
  2. Piper P/N 407 591 (AN960-716L) washer, as applicable;
  3. Piper P/N 407 568 (AN 960-716) washer, as applicable;
  4. Piper P/N 404 396 (AN 320-7) nut; and
  5. Piper P/N 424 085 cotter pin.

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